

ABSTRACT OF THE DISCLOSURE

A DC regulated power supply includes: a power transistor provided for each output of a plurality of systems; a control IC, which compares a feedback value of an output voltage and a reference voltage from a reference voltage source, and controls a base current of the power transistor according to a difference of the feedback value and the reference voltage, so as to regulate the output voltage; and an overheat protection circuit, which lowers the reference voltage of the reference voltage source upon detecting an overheated state in the power transistor. The DC regulated power supply is able to simultaneously suppress transistor base currents of different systems and eliminate regulation malfunctions in the overheat protection operation, thereby suppressing fluctuations of output voltage.